

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2003-0050

FOR
IMPERIAL SUGAR COMPANY
HOLLY SUGAR CORPORATION
dba SPRECKELS SUGAR COMPANY
SPRECKELS SUGAR COMPANY TRACY FACILITY
SAN JOAQUIN COUNTY

The Discharger shall submit reports required by this Monitoring and Reporting Program (MRP) and the Standard Provisions and Reporting Requirements dated August 1997 pursuant to Section 13267 of the California Water Code. Failure to submit the required reports can result in the imposition of civil monetary liability. The Discharger shall not implement any changes to this MRP unless and until a revised MRP is issued by the Executive Officer.

GROUNDWATER MONITORING

The Discharger shall sample groundwater at shallow background groundwater wells: BW-2, BW-6, WP-1, WP-2, and WP-6; at shallow groundwater monitoring wells WP-3, -4, -5, -8, IP-1, -2, -3; at deep background groundwater well BW-4 and at deep groundwater monitoring wells BW-3, WP-7. The Discharger shall collect samples from the groundwater wells as specified in Table 1. Sample collection shall follow standard EPA protocol.

TABLE 1 - GROUNDWATER MONITORING PROGRAM		
<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Field Parameters		
Groundwater Elevation	Feet (100ths), MSL	Semi-Annually
Specific Conductance	µmhos/cm	Semi-Annually
pH	Number	Semi-Annually
Turbidity	Turbidity Units	Semi-Annually
Monitoring Parameters		
Ammonia	mg/l	Semi-Annually
Bicarbonate as CaCO ₃	mg/l	Semi-Annually
Calcium	mg/l	Semi-Annually
Chloride	mg/l	Semi-Annually
Nitrate-N	mg/l	Semi-Annually
Hardness as CaCO ₃	mg/l	Semi-Annually
Potassium	mg/l	Semi-Annually
Sodium	mg/l	Semi-Annually
Sulfate	mg/l	Semi-Annually
Total Dissolved Solids	mg/l	Semi-Annually
Total Fixed Dissolved Solids	mg/l	Semi-Annually
Total Organic Carbon	mg/l	Semi-Annually

The Discharger shall measure the water level in each monitoring well (in feet and hundredths, MSL) and determine groundwater gradient and direction at least semi-annually, including the times of expected highest and lowest water level elevations for the respective groundwater body. Groundwater elevations shall be measured for a given groundwater body within a period of time short enough to avoid temporal groundwater flow variations which could preclude accurate determination of groundwater gradient and direction.

WASTE DISCHARGE MONITORING

The Discharger shall monitor wastewater discharged to the irrigated fields. The Discharger shall collect quarterly samples from the wastewater stream in accordance with Table 2.

TABLE 2 - WASTEWATER MONITORING PROGRAM		
<u>Parameter</u>	<u>Units</u>	<u>Frequency</u>
Wastewater Flow Rate	gallons/day	Quarterly
Monitoring Parameters		
Ammonia	mg/l	Quarterly
Bicarbonate as CaCO ₃	mg/l	Quarterly
BOD ₅	mg/l	Quarterly
Calcium	mg/l	Quarterly
Chloride	mg/l	Quarterly
Nitrate-N	mg/l	Quarterly
Hardness as CaCO ₃	mg/l	Quarterly
Potassium	mg/l	Quarterly
Sodium	mg/l	Quarterly
Sulfate	mg/l	Quarterly
Total Dissolved Solids	mg/l	Quarterly
Total Organic Carbon	mg/l	Quarterly

WATER QUALITY BACKGROUND

Background water concentrations have been calculated from background wells for the Pond Area and the Irrigation Area as follows:

TABLE 3. - BACKGROUND WATER QUALITY			
<u>Parameter</u>	<u>Pond Area</u>	<u>Irrigation Area</u>	<u>Deeper Water Zone</u>
TDS (mg/l)	3665	11391	2900
TFDS (mg/l)	3043	10780	2600
TOC (mg/l)	6.5	4.4	8.0
Bicarbonate (mg/l)	1470	800	1000
Hardness (mg/l)	1860	1342	880
Nitrogen (mg/l)	40	40.6	5.2
Calcium (mg/l)	300	425	160
Chloride (mg/l)	955	766	990
Sodium (mg/l)	618	2679	760
Sulfate (mg/l)	919	6205	290
Potassium (mg/l)	5.2	4.4	4.6
Boron (mg/l)	4.1	21	2.2
Magnesium (mg/l)	288	219	120

Monitoring Points

Groundwater:

The current upgradient groundwater Monitoring Points are monitoring wells BW-4 for the deep water bearing zone. Shallow Zone Pond Area upgradient Monitoring Points are WP-1, -2 and -6; and for the Irrigation Area BW-2 and -6.

The deep water bearing zone groundwater Monitoring Points shall be WP-7 and BW-3. The shallow zone groundwater Monitoring Points for the Pond Area shall be WP-3, -4, -5, and -8; and for the Irrigation Area shall be IP-1, -2, -3, and BW-1. Groundwater Monitoring Points shall also include any monitoring wells installed after the adoption of these WDRs. Groundwater monitor well locations are shown on Attachment B.

Surface Water:

The surface water Monitoring Points shall be upstream Monitoring Point SC-1 and downstream Monitoring Point SC-2 located in Sugar Cut. Surface water Monitoring Point locations are shown on Attachment B.

REPORTING

The Discharger shall report field and laboratory test results in semi-annual monitoring reports. The Discharger shall submit the semi-annual monitoring reports to the Board by **15 July** and **15 January**. The Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. A discussion of the monitoring results shall precede the tabular summaries.

As required by the California Business and Professions Code Sections 6735, 7835, and 7835.1, all reports shall be prepared by a registered professional engineer or geologist (or their subordinate) and signed by the registered professional.

Each semi-annual report is to include the following information:

- (a) a discussion of the monitoring results and compliance with this MRP and the WDRs;
- (b) tabulated cumulative monitoring data including depth to groundwater measurements, groundwater elevations above mean sea level, groundwater analytical data, wastewater analytical data, and monthly average wastewater discharge rate in gallons per day;
- (c) a groundwater contour map prepared using groundwater elevation data that shows the hydraulic gradient, flow direction and estimated flow velocity;
- (d) a copy of the laboratory analytical reports and chain of custody; and
- (e) the status of PCC waste removal including amount removed since the previous semi-annual report and the amount still remaining at the site.

The results of any monitoring done more frequently than required at the locations specified in the MRP shall also be reported to the Board.

The Discharger shall implement the above monitoring program on the effective date of this Order.

WASTE DISCHARGE REQUIREMENTS ORDER NO. R5-2003-0050

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IMPERIAL HOLLY CORPORATION

HOLLY SUGAR CORPORATION dba

SPRECKELS SUGAR COMPANY

SPRECKELS SUGAR COMPANY TRACY FACILITY

SAN JOAQUIN COUNTY

Ordered by: _____
THOMAS R. PINKOS, Executive Officer

14 March 2003
Date

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2003-0050

WASTE DISCHARGE REQUIREMENTS
IMPERIAL SUGAR COMPANY
HOLLY SUGAR CORPORATION dba
SPRECKELS SUGAR COMPANY
SPRECKELS SUGAR COMPANY TRACY FACILITY
SAN JOAQUIN COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Board) finds:

1. Imperial Holly Corporation owns and Holly Sugar Corporation doing business as Spreckels Sugar Company operates (jointly hereafter Discharger) the Spreckels Sugar Company Tracy Facility in San Joaquin County. The Tracy Facility is currently a sugar packaging and distribution facility. Previously, the facility was used to produce sugar from sugar beets from 1917 until December 2000. Holly Sugar has owned and operated the plant since 1927.
2. The Spreckels Sugar Company Tracy Facility is about one mile north of the City of Tracy as shown on Attachments A and B, which are incorporated herein and made part of this Order. The sugar factory and its wastewater pond network are on the eastern side of the property. The remainder of property is called the Holly Sugar Ranch. The ranch consists of 1,100 acres farmed for alfalfa, sugar beets, barley and other crops. About 600 acres of the ranch and/or 74 acres adjacent to the sugar factory may be irrigated in part with wastewater from the facility.
3. The Tracy Facility is currently regulated under Waste Discharge Requirements (WDRs) Order No. 5-00-060. New WDRs are being proposed because facility operations have converted from sugar processing to sugar packaging with resulting changes to the character of wastes discharged at the site. This revised Order prescribes requirements appropriate to the new discharge, and revises the Monitoring and Reporting Program. This revised Order includes a schedule for removal of PCC material from the PCC ponds, requires testing of the soils in the Mud ponds and closure if they are a threat to water quality.
4. The facility operating as a sugar processing plant previously generated about 2 million gallons per day of wastewater during the season. Under current operations daily wastewater discharge averages approximately 86,000 gallons per day. The primary wastewater streams are from non-contact cooling, boiler blowdown, cleaning of packaging equipment, and general site cleanup.
5. The Discharger submitted a Report of Waste Discharge (ROWD) dated 10 May 2001 describing the revised waste stream and asking for a revision of Waste Discharge

Requirements (WDRs). Staff requested additional information and background monitoring, and the ROWD was completed on 1 February 2002. Subsequently the discharger installed flow meters for the waste water system and completion of revised WDRs was delayed until the average wastewater flow rate could be determined. On 19 September 2002 the discharger submitted wastewater flow data.

Site Description

6. The facility is about one mile north of the City of Tracy as shown on Attachments A and B, which are incorporated herein and made part of this Order. The sugar factory and its wastewater pond network are on the eastern side of the property. The remainder of the property is called the Holly Sugar Ranch. The ranch consists of 1,100 acres farmed for alfalfa, sugar beets, barley and other crops. About 600 acres of the ranch are currently irrigated with wastewater from the factory. The City of Tracy municipal sewage treatment plant is south of the factory and the municipal wastewater lagoons are to the east. Sugar Cut, a tributary to Old River, is also east of the property. The nearest residential area is about one mile to the southwest of the facility along Larch Road.
7. Eleven unlined wastewater ponds remain on the facility from the sugar processing operation. Three of the ponds received wastewater containing precipitated calcium carbonate (PCC Ponds), four received wastewater from the beet washing operation (Mud Ponds) and four received plant wash water (Wash Water Ponds). Under current operations, the PCC and Mud Ponds are no longer in use.

Waste Description

8. The principal waste streams from the plant are wastewater generated from non-contact cooling associated with air compressors and a heat exchanger; boiler blowdown water; and washwater from rinsing of processing equipment and processing areas. Wastewater generated from all sources is approximately 86,000 gallons per day.
9. Waste water and stormwater are collected at the pump station wetwell and conveyed via a 14-inch diameter, 1,300-foot long steel pipeline to either the irrigation canal for onsite irrigation, or the wash water ponds for storage.
10. Four wash water holding ponds are available to store and stabilize wastewater. The earthen ponds are constructed above grade. Total pond volume is approximately 35 million gallons.

11. Wastewater is typically blended with surface water from Sugar Cut and applied onsite for use as irrigation. Wastewater is conveyed to irrigate fields via open canals. Water is applied by border strip, spray, or furrow irrigation methods. Tailwater is captured at the field ends and directed to tailwater return pump stations. The irrigation pond is used as emergency storage of tail and storm water from the fields.

Waste Classification

12. Waste water generated by sugar processing operations is characterized and compared with background groundwater quality as follows:

	Waste Water Discharge ⁽¹⁾	Background Groundwater ⁽²⁾
	(mg/l)	(mg/l)
Bicarbonate	353	879
Boron	1.9	2.5
Calcium	94	152
Chloride	280	632
Magnesium	43	126
Nitrate – N	4.7	13
Potassium	3	3
Sodium	280	534
Sulfate	260	420
TFDS	1400	2211
Total Organic Carbon	130	5
BOD	219	ND

(1) The average of four wash-water discharge grab samples.

(2) Average of data collected between 03/29/01 to 06/03/02 from WP-1, WP-2 & WP-6.

The available data indicates that current wastewater quality is similar to background groundwater quality for most constituents. Exceptions are biochemical oxygen demand (BOD), and total organic carbon (TOC). These constituents do not pose a significant threat

to water quality if the wastewater is applied to land at the proposed rate under an effluent limitation. This order places an effluent (TFDS) limitation on wastewater applied to land based on average concentration found in background groundwater.

13. The California Water Code Section 13173(b), defines designated waste as: *nonhazardous waste that consists of or contains pollutants that, under ambient environmental conditions at a waste management unit, could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of the waters of the state as contained in the appropriate state water quality control plan.*
14. Based on the data available, the current waste stream is not a hazardous waste and it is not a designated waste. Therefore, Title 27 California Code of Regulations waste management unit construction regulation does not apply.

Sugar Processing Ponds Waste Classification

15. The previous Order required that the Discharger monitor wastewater quality and background groundwater quality to determine if any unlined pond contains designated wastes. Conversion of the facility from sugar beet processing to sugar packaging precluded this requirement. Concentration Limits for the Pond Area have been calculated from background groundwater quality data can be compared with the limited data set from the Mud Pond and PCC Pond collected prior to the change in operations.

	TFDS (mg/l)
Pond Area Average Background	2211
Average Discharge to Mud Pond	2297
Maximum Discharge to Mud Pond	3410
Average Discharge to PCC Pond	2976
Maximum Discharge to PCC Pond	7260
Average Downgradient Water Quality	2067

The available data show that water discharged to the Mud and PCC ponds under previous operations contained greater total fixed dissolved solids than background groundwater. However, impacts to downgradient groundwater quality are not evident.

16. Based on the available evidence, waste discharged to the PCC Ponds and Mud Ponds have not significantly impacted groundwater quality.

17. The discharger has proposed to remove all solid waste from and close the PCC Ponds in accordance with an approved work plan.

Waste Management Units

18. The wastewater ponds are unlined, earthen ponds constructed above grade.

CEQA and Other Considerations

19. The action to revise WDRs for the facility is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21000, et seq.), in accordance with Title 14, CCR, Section 15301.
20. This Order implements the Water Quality Control Plan for the Sacramento River Basin and the San Joaquin River Basin, Fourth Edition.
21. The Board has notified the Discharger and interested agencies and persons of its intention to revise the WDRs for this facility.
22. In a public hearing, the Board heard and considered all comments pertaining to this facility and discharge.
23. Any person affected by this action of the Regional Board may petition the State Water Resources Control Board to review the action in accordance with Sections 2050 through 2068, Title 23, California Code of Regulations. The petition must be received by the State Water Resources Control Board, Office of Chief Counsel, P.O. Box 100, Sacramento, California 95812, within 30 days of the date of issuance of this Order. Copies of the laws and regulations applicable to the filing of a petition are available on the Internet at http://www.swrcb.ca.gov/water_laws/index.html and will be provided on request.

IT IS HEREBY ORDERED that Order No. 5-00-060 be rescinded and that the Holly Sugar Corporation, the Spreckels Sugar Company, and their agents, successors and assignees, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

A. DISCHARGE PROHIBITIONS

1. The discharge of 'hazardous' wastes as defined in Title 27 to any onsite pond is prohibited.

2. The discharge of 'designated' wastes as defined in Title 27 to any onsite pond is prohibited.
3. The offsite discharge of liquid or solid wastes, except for discharges to an authorized disposal facility, or for use in a beneficial application that is not a threat to water quality is prohibited.
4. The discharge of wastes to surface waters or surface water drainage courses without WDRs that allow such discharge is prohibited.
5. The discharge of wastewater with a Total Fixed Dissolved Solid content greater than 2200 mg/l is prohibited.

B. FACILITY SPECIFICATIONS

1. The monthly average discharge flow rate shall not exceed 200,000 gallons per day. The discharge rate shall be measured prior to discharge to irrigation or to the wastewater ponds and includes both wastewater and stormwater.
2. Facility wastewater shall only be discharged to the irrigated fields as described in this Order.
3. The treatment or disposal of waste shall not cause pollution or a nuisance as defined in the California Water Code, Section 13050.
4. The discharge of wastes shall not cause groundwater degradation.
5. There shall be no standing wastewater in the irrigation disposal area 24 hours after wastewater is applied.
6. Each facility groundwater monitoring well shall be locked to prevent unauthorized access and shall be equipped with a watertight well cap at the top of the well casing to prevent surface water infiltration in the event that the well is submerged during irrigation.

C. PROVISIONS

1. The Discharger shall comply with attached Monitoring and Reporting Program No. R5-2003-0050 and the Standard Provisions and Reporting Requirements dated August

1997, which are incorporated into and made part of this Order.

2. The Discharger shall submit all reports required by this Order pursuant to Section 13267 of the California Water Code. The Discharger or persons employed by the Discharger shall comply with all notice and reporting requirements of the state Department of Water Resources with regard to the construction, alteration, destruction, or abandonment of all monitoring wells used for compliance with this Order or with MRP No. R5-2003-0050, as required by Section 13750 through 13755 of the California Water Code.
3. The Discharger may be required to submit other technical reports as directed by the Executive Officer.
4. In the event of any change in control or ownership of land or waste discharge facilities presently described herein, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to this office.
5. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
6. The Board will review this Order periodically and will revise requirements when necessary.
7. A copy of this Order shall be kept at the facility for reference.
8. The Discharger shall complete the tasks outlined below in accordance with the following time schedule:

Task

Compliance Date

a. Submit a workplan to test underlying soils from the PCC ponds after PCC removal, to ensure removal of all PCC material, and from the Mud ponds to determine if they are a threat to water quality.

15 July 2003

b. Submit the results of a study to confirm that soils at the Mud ponds do not represent a threat to water quality. If a threat to water quality is determined the report shall propose a time schedule for approval by the Executive Officer to complete any necessary activities.

1 December 2003

c. After PCC removal is complete submit a report that presents the results of PCC pond confirmation sampling and an interpretation of the data that compares the results to background groundwater quality and assesses the need, if necessary, for further PCC removal. The report shall propose a time schedule for approval by the Executive Officer to complete any necessary activities.

1 July 2006

If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this order, the Executive Officer may apply to the Attorney General for judicial enforcement or issue a complaint for Administrative Civil Liability.

I, THOMAS R. PINKOS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 14 March 2003.

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THOMAS R. PINKOS, Executive Officer

RDA